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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,722	01/23/2002	Akio Kitamura	FUJI:203	6219

7590 11/06/2003

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EXAMINER

FENTY, JESSE A

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,722

Applicant(s)

KITAMURA, AKIO

Examiner

Jesse A. Fenty

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 8 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/03/03 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kumagai (U.S. Patent No. 6,462,385 B1).

In re claim 1, Kumagai (Figs. 1, 5) discloses a semiconductor device, comprising:

A semiconductor substrate (10);

A first well (15) of a first conductivity type formed in the semiconductor substrate;

A second well (42) of the first conductivity type formed in the semiconductor substrate;

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A first lateral MOS transistor having a source area (26), a drain area (28), and a channel area formed between the source and drain areas thereof, the source, drain, and channel areas thereof being formed in said first well;

A second lateral MOS transistor having a source area (52), a drain area (54), and a channel area formed between the source and drain areas thereof, the source, drain, and channel areas thereof being formed in said second well; and

A punch-through stopper area (13) surrounding the source area and the drain area of said first lateral MOS transistor in the first well and providing a punch-through voltage resistance (106) between said source area and said drain area of said first lateral MOS transistor,

Wherein said second lateral MOS transistor has a lower threshold voltage than said first lateral MOS transistor (based on the punch-through structure as described in applicant's specification, section [0033]), and

Wherein the length of the channel area of said first lateral MOS transistor is smaller than the length of the channel area of said second lateral MOS transistor (as displayed in Fig. 1).

In re claim 2, Kumagai discloses the device of claim 1. The limitation regarding the use of the transistors as analog and digital devices relate to the intended use of the claimed invention. Terms that simply set forth the intended use, a property inherent in or a function, do not differentiate the claimed composition of these elements from those known to prior art. Therefore, it would have been well within the skill of an ordinary worker in the art to use the disclosed structure for any number of relevant devices known to the semiconductor devices art.

In re claim 6, Kumagai discloses the device of claim 1, further comprising a diode integrated in said semiconductor substrate. Note that a diode is functionally a PN junction;

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therefore, diodes are an inherent part of the device at any number of PN junctions. For example, diodes are integrated in the substrate at locations between the source/drain regions and the wells in which they reside and a diode. Also, diodes are present in the substrate at the junction of wells 13 and 19.

In re claim 7, Kumagai discloses the device of claim 1, further comprising a diffusion resistor (38) integrated in said semiconductor substrate. Although Kumagai labels the region (38) as a well contact region, said region is a diffusion region that inherently will have a resistance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai in view of Curran (U.S. Patent No. 4,403,395).

In re claim 5, Kumagai discloses the device of claim 1, but does not expressly disclose a bipolar transistor. Curran (Fig. 12) discloses a bipolar transistor in combination with lateral MOS devices and other devices. It would have been obvious for one skilled in the art at the time of the invention to combine a bipolar transistor structure with lateral MOS transistors as disclosed by Curran for the device of Kumagai for the purpose, for example, of increasing the level of integration of analog and digital devices (Curran, column 1, lines 13-19).

Allowable Subject Matter

6. Claims 3, 4, 8 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

- a. In re claim 3, the limitation wherein said second lateral MOS transistor has an offset drain area surrounding the drain area and having a lower impurity concentration than the drain is neither anticipated nor obvious over the prior art of record.
- b. In re claim 8, the limitation wherein the punch-through stopper area has a pocket structure that encloses the source side LDD area and the drain side LDD area is neither anticipated nor obvious over the prior art of record.
- c. In re claim 11, the limitation wherein the first well has a lower impurity concentration than the punch-through stopper area is neither anticipated nor obvious over the prior art of record.

Response to Arguments

8. Applicant's arguments with respect to claims 1-8 and 11 have been considered but are moot in view of the new ground(s) of rejection.

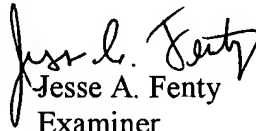
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 703-308-8137. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Jesse A. Fenty
Examiner
Art Unit 2815

JAF